

Remarks

Claims 1-27 are presented for examination. Claims 13-17 have been allowed and Claim 11 has been indicated as being allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claims 1-10, 12 and 18-27 stand rejected.

Claim 2 is rejected under 35 U.S.C. Section 112 as being indefinite. This rejection is respectfully traversed. The examiner comments that it is unclear whether the pin thread runout diameter is the same as the outside diameter of a major length of the first tubular body. It is respectfully noted that with respect to the definition of applicants' invention by Claim 2, it is purposely intended that the pin thread runout diameter may be the same as-or different from-the diameter of a major length of the first tubular body. Applicants do not wish to limit the coverage of Claim 2 to a specific diameter for the runout of the pin thread. It is respectfully submitted that the fact that the runout diameter is (or is not) expressly identified as being the same as the outside diameter of a major length of the first tubular body does not make the claim indefinite. Applicants are not required to limit the pin thread runout diameter to any specific component or value. Accordingly, it is respectfully submitted that Claim 2 is in full compliance with the requirements of 35 U.S.C. 112 and such a determination is respectfully solicited.

Claims 1, 2, 4-10 and 12 stand rejected under 35 U.S.C. 102(b) as being anticipated by the patent to *Feisthamel*. This rejection is respectfully traversed.

Figure 1 of the *Feisthamel* reference, referred to by the examiner in rejecting applicants' Claim 1, does not disclose a pin thread root extending from a starting vanishing point as called for by applicants' Claim 1. Note column 2, line 107 of *Feisthamel*, in describing the threads in the Figure 1 embodiment, states: "said coengaging threads being preferably standard tapered pipe threads." It is respectfully noted that standard tapered pipe threads do not terminate at a vanishing point on the tubular body on which they are formed.

Applicants' Claim 1 calls for an external seal between the pin and box adjacent the pin thread starting point and proximate the free box end with the external seal comprising a pin seal surface formed externally of the pin. The embodiment of Figure 1 of *Feisthamel* has no external seal.

Applicants' Claim 1 calls for an annular seal member carried in a groove within the free box end. The embodiment of Figure 1 of *Feisthamel* has only a single annular seal member that is carried within the base of the box and not within the free box end.

Applicants' Claim 1 calls for an external seal and an internal seal whereby the pin threads and the box threads are confined between the external and internal seals when the pin and box are engaged. The embodiment of Figure 1 of *Feisthamel* has only a single annular seal member and therefore, the threads are not confined between an internal and an external seal.

The examiner states that an external seal is located between the pin and the box elements adjacent the starting point of the pin thread surface and the box end. It is respectfully submitted that the embodiment of Figure 1 does not have an external seal. It is acknowledged that the embodiments of Figures 2-5 have both internal and external seals, however, the embodiment of Figure 1 has only an internal seal.

The examiner refers to the annular seal member 6 as being carried in a groove within the free box end of the *Feisthamel* connection. It is respectfully submitted that the seal member 6 is not carried in the free box end but is rather carried in the base of the box adjacent the starting point of the box threaded surface and the pin end.

Applicants' Claim 1 calls for an annular inclined shoulder formed internally of the box for engagement with an inclined nose section on the pin for preventing the nose section from moving radially away from engagement with the shoulder. It is respectfully noted that no such structure is revealed in any of the *Feisthamel* embodiments.

With regard to Claim 2, Applicants call for the pin threads to runout to an outside diameter at the vanishing starting point of the threads. It is respectfully submitted that none of the embodiments of the *Feisthamel* reference teach pin threads running out to an outside diameter at a vanishing starting point of the threads. Rather, as noted previously, Figure 1 illustrates standard tapered pipe threads that do not runout to a vanishing point on the outside diameter of the tubular body. Figures 2-5 of *Feisthamel* show threads that do not runout to a vanishing starting point. In view of its dependency from Claim 1, the distinctions noted previously with regard to Claim 1 and the *Feisthamel* reference are equally applicable to the rejection of Claim 2.

Applicants' Claim 4 calls for the external pin seal surface to be formed on a radially enlarged section of the first tubular body. The embodiment of Figure 1 of *Feisthamel* has no radial enlargement on the first tubular body that provides an external pin seal surface. Rather, the external threads on the *Feisthamel* pipe terminate in the cylindrical surface of the pipe body.

Applicants' Claim 5 calls for the box and pin threads to be fully confined between the external and internal seals when the pin and box are engaged. The embodiment of Figure 1 of *Feisthamel* has no external seal.

Applicants' independent Claim 6 calls for the first tubular body to have an outside diameter no greater than an outside diameter of a major length of the first tubular body. Contrary to the examiner's contention, the embodiment of Figures 2-5 of *Feisthamel*, which includes the casing section 2a, has a first tubular body with an outside diameter that is greater than an outside diameter of a major length of the first tubular body. See the upset area in the casing section 2a of the *Feisthamel* drawings.

Applicants' Claim 6 calls for the pin threads to runout on the outside diameter of the first tubular body at the starting point of the threads. The embodiments of Figures 2-5 of *Feisthamel* do not show a runout thread extending to the external surface of the first body. Rather, the threads extend to an unthreaded area having an external diameter smaller than that of the adjacent pipe section forming a shoulder 12. See Figure 4.

Applicants' Claim 8 calls for the external seal to be carried in an annular groove formed in the first tubular body. The external seal of the *Feisthamel* reference is carried in a recess 10 formed in the second tubular body. See Figure 4.

Applicants' Claim 10 calls for an external seal to be carried externally of the first tubular. The *Feisthamel* reference teaches that the external seal ring is carried internally of the second tubular member. See Figure 4.

Applicants' Claim 12 calls for the pin to carry an elastomeric seal ring to provide the external seal when the pin and box are engaged. All of the elastomeric seals described in the *Feisthamel* reference are carried by the box.

In view of the distinctions noted between the cited prior art and applicants' Claims, it is respectfully submitted that applicants' Claims 1, 2, 4-10 and 12 patentably distinguish over the prior art and allowance of such Claims is respectfully solicited.

Applicants' Claims 1-8, 10, 12 and 18-27 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over *Church* in view of *Feisthamel*. This rejection is respectfully traversed.

Applicants' Claim 1 calls for internal and external seals whereby the pin threads and the box threads are confined between the external and internal seals when the pin and box are engaged. The threads defined in applicants' Claim 1 include pin threads having a root that extends from a starting vanishing point on the first tubular body and terminate adjacent the free pin end. The patent to *Church* does not teach a connection having external and internal seals that confine threads as defined in applicants' Claim 1.

The examiner contends that it would be obvious to include an annular elastomeric seal as taught by *Feisthamel* into a device as described by *Church* "in order to prevent the loosening of the connection." While increased tightness may have been a motive in the selection of seals of the *Feisthamel* device, it is respectfully submitted that it would not have been obvious to place tightness increasing seals in the *Church* connection because there is no requirement for increased tightness in the *Church* connection. Accordingly, no such combination would be obvious because the purpose of the seals in *Church* are exclusively for the purpose of sealing and have no purpose or function related to the tightness of the connection. See column 2, line 54 *et seq* of *Church* stating that the seal rings provide independent primary internal and external pressure seals. It is also respectfully submitted that elastomeric seals, such as PTFE, used in modern connections like the connection of the *Church* Patent normally have the effect of reducing the makeup torque and consequently the "tightness" of the connection, thus presenting yet another reason why the proposed combination would not be obvious.

Applicants' Claim 5 recites that the pin and box threads are fully confined between the external and internal seals when the pin and box are engaged. The examiner contends that *Church* discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged. It is respectfully noted that the examiner has acknowledged that *Church* discloses that the elastomeric seal is located at the middle and at the end of the threaded connection. Accordingly, it is respectfully submitted that the pin and box threads are not fully confined between the external and internal seals of the *Church* connection.

Applicants' Claim 6 calls for an external seal between the pin and box adjacent the pin thread starting point and adjacent the free box end. As acknowledged by the examiner, the *Church* connection discloses that the external seal is located at the middle of the threaded connection. In view of the express teachings of the *Church* Patent, it is respectfully submitted that the external seal is not between the pin and box adjacent the pin thread starting point and adjacent the free box end.

Applicants' Claim 8 calls for the external seal to be carried in an annular groove formed in the first tubular body. The external seal of the *Church* Patent is carried in a groove 32 formed in the second tubular body. Thus, see Figure 1 of *Church* illustrating the seal groove 32 formed in the coupling 16, corresponding to the second tubular body.

Applicants' Claim 10 calls for the external seal to be carried externally of the first tubular member and adapted to engage a face formed at an axial end of the box. The external seal of the *Church* connection is not disposed at a position to be engaged by a face formed at an axial end of the box.

Applicants' Claim 12 calls for the box to carry a frustoconical seal surface adjacent a face at the end of the second tubular body with the pin carrying a seal ring adjacent the starting point of the pin threads whereby the frustoconical seal surface engages the seal ring to provide the external seal when the pin and box are engaged. It is respectfully noted that the *Church* connection has no frustoconical seal surface adjacent the face of the box and the pin and has a no seal ring adjacent the starting point of the pin threads.

Applicants' Claim 18 calls for internal and external seals cooperating to isolate the pin threads and the box threads from exposure to elements external to the pin threads and the box threads when the pin and box are threadedly engaged. As acknowledged by the examiner, the *Church* connection does not have an external seal at the end of the threaded area. It is respectfully submitted that the *Church* connection does not operate to isolate the pin threads and box threads from exposure to elements external to the pin threads and box threads when the pin and box are threadedly engaged as recited in applicants' Claim 18.

To the extent that applicants' dependent claims depend from independent claims herein distinguished over the prior art, it will be understood that such dependent claims also distinguish over the art for the reasons herein advanced.

Applicants' Claims 1-8, 10, 12 and 18-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Wood* in view of *Feisthamel*. This rejection is respectfully traversed.

Applicants' Claim 1 calls for a pin thread root extending from a starting vanishing point on the first tubular body and terminating adjacent the free pin end. It is respectfully submitted that the threads of the *Wood* pin do not start from a vanishing point as is readily evident from visual inspection of the Drawings; rather, the threads are of substantially equal height throughout their entire development.

Applicants' Claim 2 calls for the pin threads to run to an outside diameter of the first tubular body at the vanishing starting point of the threads. As noted previously, it is evident from inspecting the illustrations in the *Wood* Patent that the pin threads not run to a vanishing starting point of the threads.

Applicants' Claim 6 calls for the pin threads formed on the first tubular body to runout on the outside diameter at the starting point of the threads. As herein noted, the illustrations of the *Wood* Patent show that the pin threads and do not run to a vanishing starting point of the threads.

Applicants' Claim 6 calls for an elastomeric external seal between the pin and box adjacent the pin thread starting point and adjacent the free box end. It is respectfully submitted that no such external seal is illustrated in the *Wood* Patent.

Applicants' Claim 6 calls for an internal seal whereby the pin threads and the box threads are at least partially confined between the external and internal seals when the pin and box are engaged. Since the *Wood* connection lacks the elastomeric external seal called for in applicants' Claim 6, it is respectfully submitted that none of the threads in the *Wood* connection are confined between external and internal seals as recited in applicants' claim.

Applicants' Claim 7 calls for the pin and box threads to be fully confined between the external and internal seals when the pin and box are engaged. As previously noted, it is respectfully submitted that *Woods* lacks an external elastomeric seal and therefore does not respond to applicants' claims calling for fully confining the pin and box threads between an internal seal and an external elastomeric seal.

Applicants' Claims 23-27 call for the second tubular body to comprise a coupling having first and second axial coupling ends with the box formed on the first axial coupling end and a second box on the second axial coupling end. The examiner contends that *Wood* discloses that

the second tubular body comprises a coupling that has first and second axial coupling ends with the box member formed in the first and second ends. It is respectfully noted that *Woods* discloses only an integral joint connection, without any mention of a coupling.

With regard to the alleged obviousness of modifying *Wood* as taught by *Feisthamel*, it is respectfully submitted that the seals of the *Wood* connection are intended exclusively to prevent leakage, i.e. they are sealing mechanisms. There is no suggestion in *Wood* to employ sealing members for the purposes of preventing loosening of a connection. While it is possible that *Feisthamel* intended his seal elements to prevent the loosening of the *Feisthamel* connection, it is respectfully submitted that there is neither incentive nor purpose in providing tightening sealing components in the *Wood* connection. Accordingly there is no reason for making the proposed combination and such combination would consequently, not have been obvious.

Applicants' Claims 18, 20-23 and 25-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Feisthamel*. This rejection is respectfully traversed.

Applicants' Claim 18, and 20-23 call for pin threads starting from a vanishing point on the first tubular body and terminating in the area of the free pin end with the threads further being formed on and running out to the vanishing point. It is respectfully submitted that none of the embodiments of the *Feisthamel* reference teach pin threads running out to a vanishing starting point of the threads. Rather, as noted previously, Figure 1 of *Feisthamel* illustrates standard tapered pipe threads that do not runout to a vanishing point on the outside diameter of the tubular body.

Contrary to the examiner's assertion, it is respectfully submitted that it is not obvious to modify the Figure 1 embodiment of *Feisthamel* to meet applicants' claims. The purpose of applicants' internal and external sealing elements is to isolate the threads securing the pin and box members together from exposure to external elements. Applicants' seal members are neither intended to prevent loosening of the connection nor do they function to prevent loosening of the connection. It is therefore respectfully submitted that the proposed changes suggested by the examiner do not result in a connection that anticipates applicants' claims. Moreover, even if the suggested modifications should produce a connection anticipating applicants' claims, there is no suggestion or purpose in making the modification to be found in the *Feisthamel* reference and consequently, the modifications are not obvious.

The discussion regarding *Church* in numbered paragraph 9 of the Office Action is not understood. The rejection stated in paragraph 9 is based solely on the teachings of *Feisthamel* under 35 U.S.C. 103(a). Applicants cannot adequately respond to the rejection to the extent that the teachings of the *Church* Patent are also being cited in the rejection of the claims.

In the specific responses to applicants' previous argument, the examiner cites references to Figure 1 of the *Feisthamel* Patent. It is acknowledged that the embodiment in Figure 1 of the *Feisthamel* Patent includes a non-upset pin connection. The features in applicants' claims, however, such as an external seal, are not taught in the Figure 1 embodiment of *Feisthamel*. An external seal and certain other claimed features of applicants' invention are individually illustrated in Figures 2-5, however, it is respectfully noted that the connection illustrated in these figures uses an upset pin connection, which is excluded in applicants' claims, and does not include a runout thread that runs to the outside diameter of the first tubular body, which is included in applicants' claims.

The also respectfully noted that the pin nose of the *Feisthamel* pin connection is neither designed to engage, nor is it capable of engaging, an internal shoulder of the box. This is evident from inspection of the connection illustrating that the pin threads do not have sufficient length to enable advance of the pin into the box the distance required to engage the pin nose with the illustrated internal box restriction.

The examiner contends that applicants' claim limitation that the shoulder is "for" engagement is the intended use of the shoulder. Applicants concur with the examiner's conclusion, however, the limitation must be given consideration in that it distinguishes over the *Feisthamel* design having a shoulder that is not for engagement with the pin nose. The authority cited by the examiner is precisely in point in support of applicants' position in this regard because the *Feisthamel* reference does not disclose the structural limitation called for in applicants' Claims.

Applicants' concur with the examiner's statement that the *Church* Patent discloses threads having stab flanks and load flanks of different inclinations. It is respectfully submitted, however, that it is the combination of features defined in applicants' claims that distinguish over the cited references. The rejection of applicants' claims one feature at a time based on separate prior art teachings without any showing that a combination of the teachings would have been obvious is

inappropriate based upon authority previously cited by applicants in the prosecution of the parent of this application.

In response to the argument that *Feisthamel* illustrates a groove or depression in Figures 2 and 3 that provides response to applicants' claims calling for an elastomeric seal ring carried in an annular groove formed on the pin component, applicants' have previously noted that the seal rings are readily evident as being carried in the box portions of the *Feisthamel* reference.

In response to the statements made by the examiner regarding the obviousness of combining the references, it is respectfully submitted that the mere fact that references teach that different combinations of components and/or materials may be made does not make the claimed combination defined by applicants' claims obvious. Applicants have gone to great lengths to explain that various proposed combinations suggested by the examiner are neither taught nor suggested by any of the references and/or would result in a combination that would be inoperative or unsuitable for its intended purpose if combined as suggested by the examiner. It is respectfully submitted that no combinations based on common knowledge or common sense stemming from the individual teachings of the cited references would produce a connection responding to applicants' claims.

In view of the foregoing argument and authority, it is respectfully submitted that applicants' Claims 1-27 distinguish over the cited prior art, whether such art be taken alone or any proper combination, and allowance of such claims is respectfully solicited.

Respectfully submitted



Carlos A. Torres

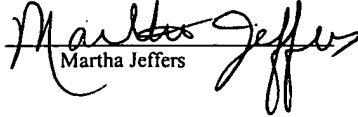
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I hereby certify that this correspondence and all referenced enclosures are being deposited by me by facsimile (703) 872-9306 to Examiner Carlos Lugo and by Regular Mail in an envelope addressed to the Assistant Commissioner, Mail Stop: NF Amendment, P.O. Box 1450, Alexandria, VA 22313-1450 on September 3, 2003.

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